

MONTHLY WEATHER REVIEW.

Vol. XXI.

WASHINGTON, D. C., MARCH, 1893.

No. 3.

BOARD OF EDITORS { Mr. Horace E. Smith, Chief Clerk of Weather Bureau,
Professors Henry A. Hazen, Thomas Russell, and Charles F. Marvin, and
Mr. Edward B. Garriott, in charge of Review Room.

INTRODUCTION.

This REVIEW is based on reports for March, 1893, from 2,950 regular and voluntary observers. These reports are classified as follows: 164 reports from Weather Bureau stations; 44 reports from United States Army post surgeons; 2,015 monthly reports from state weather service and voluntary observers; 210 reports through the Southern Pacific

Railway Company; 490 marine reports through the co-operation of the Hydrographic Office, Navy Department; 27 reports from Canadian stations; marine reports through the "New York Herald Weather Service"; monthly reports from local services established in all states and territories; and international simultaneous observations. Trustworthy newspaper extracts and special reports have also been used.

CHARACTERISTICS OF THE WEATHER FOR MARCH, 1893.

TEMPERATURE.

Except in parts of the Ohio Valley and the Lake region the month was colder than the average March. The first important cold wave overspread the central valleys and the Southeastern States during the 3d and 4th, carrying the line of freezing weather to the immediate Gulf coast and over the northern part of the Florida Peninsula, and causing the lowest temperature on record for March in the south Atlantic states, Tennessee, and Arkansas. A second severe cold wave advanced from the Rocky Mountains to the Atlantic coast from the 12th to the 15th, attended by freezing weather in northern parts of the east Gulf states. The observer at Wilmington, N. C., reports that thousands of dollars were saved to strawberry growers in that section by the Weather Bureau warning of the cold wave of the 4th. Heavy frost occurred as far south as Tampa, Fla., on the 5th, at Dallas, Tex., on the 18th, at Columbia, S. C., on the 19th, at Wilmington, N. C., on the 20th, and at Adairsville, Ga., on the 30th.

PRECIPITATION.

About the normal amount of precipitation fell over the greater part of New England, in the upper lake region, and on the northeast slope of the Rocky Mountains. In northeastern Florida, northwestern Washington, and southwestern California the monthly precipitation was more than 5.00 inches in excess of the usual amount, and at Jacksonville, Fla., and Neah Bay, Wash., it was the greatest ever reported for March. In an area extending over Nova Scotia and eastern Maine, and from southern Virginia over the interior of the east Gulf states and southern Tennessee the monthly precipitation was 3.00 to 4.00 inches less than the average, and at Eastport, Me., Baltimore, Md., Key West, Fla., Galveston, Tex., and Memphis, Tenn., it was the least on record for March. At Pikes Peak, Colo., the monthly snowfall was 179

inches, and a depth of 145 inches was reported at Summit, Cal. In the mountains of New England, and at points in Upper Michigan, northern Wisconsin, and northern North Dakota 20.00 to 30.00 inches of snow fell. A severe snowstorm extended from the middle Mississippi valley over northern parts of the Gulf States and to the middle Atlantic coast during the 3d and 4th. The heaviest snowstorm on record for that section was reported in the eastern part of Fresno County, Cal., on the 11th. Heavy snowstorms prevailed in the Northwestern States on the 13th and 22d.

STORMS.

The most disastrous storms of the month occurred in the east Gulf states the evening of the 3d, in Oklahoma the evening of the 22d, and in the middle Mississippi and lower Ohio valleys the afternoon and evening of the 23d. These storms resulted in considerable loss of life and immense destruction of property. Referring to the storms of the 23d the observer at Louisville, Ky., reports that the special prediction sent from this office the night of the 22d, in anticipation of severe local storms in the central Mississippi and lower Ohio valleys, prompted precautionary measures by river men which resulted in an immense saving of floating property, and that commendations heard on all sides and received from all sections of the state prove that the warning was one of the most successful ever issued by the Weather Bureau.

FLOODS.

Destructive floods, resulting from ice gorges, occurred in rivers and streams of New York during the second decade of the month. At Albany, N. Y., the Hudson River reached the highest point noted since 1874, and low-lying parts of the city were submerged. From the 10th to the 13th flood conditions prevailed along the Genesee River in western New York. Floods were also reported along the Susquehanna River, Pennsylvania. At points along the Grand River, Michigan, the water was reported the highest on record. Streams overflowed their banks in the Northwestern States. The latter part of the month destructive floods occurred in the San Joaquin Valley and in southwestern California.